

**REMARKS**

Claims 1-10, 16-23 and 28-30 are pending in the present application. Claims 1 and 30 are amended. Support for the amendments to claims 1 and 30 is found in the specification. In particular, support for item (h) is found, for example, on page 4, lines 7-9 of the specification; support for item (i) is found, for example, on page 9, line 2 to page 11, line 10 of the specification; support for item (j) is found, for example, on page 11, line 11 to page 13, line 16 of the specification; and support for item (k) is found, for example, on page 13, line 17 to page 16, line 3 of the specification. No new matter is inserted into the application.

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kristi L. Rupert, Ph.D. (Reg. 45,702) at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By   
Gerald M. Murphy, Jr., #28,977

*pur*  
GMM/KLR:gml  
0020-4559P

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

Attachment(s): VERSION WITH MARKINGS TO SHOW CHANGES MADE

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims have been amended as follows:

1. (Three Times Amended) An isolated nucleic acid which comprises a polynucleotide encoding a protein that binds a D-galactosyl group through the  $\alpha(1\rightarrow6)$  bond to the hydroxyl group attached to the carbon atom at 6-position of the D-glucose residue in a sucrose molecule to form raffinose [derived from a plant selected from the group consisting of soybean, *Chenopdiaceae* plants and *Cruciferea* plants], wherein said polynucleotide comprises [having] a nucleotide sequence [hybridizable with a nucleotide sequence] selected from the group consisting of:

(a) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 1,

(b) a nucleotide sequence as depicted in SEQ ID NO: 2,

(c) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 3,

(d) a nucleotide sequence depicted by the 236<sup>th</sup> to 2584<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 4,

(e) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 5,

(f) a [the] nucleotide sequence depicted by the 134<sup>th</sup> to 2467<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 6,

(g) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 7,

(h) a nucleotide sequence depicted by the 1<sup>st</sup> to 1719<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from soybean with a combination of a PCR primer of SEQ ID NO: 9 and a PCR primer of SEQ ID NO: 10, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C,

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a *Chenopdiaceae* plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO: 11 and SEQ ID NO: 13 and a PCR primer selected from the group consisting of SEQ ID NO: 12 and SEQ ID NO: 14, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence

of (c) or (d), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C, and

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a *Cruciferae* plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO: 15, SEQ ID NO: 17 and SEQ ID NO: 19 and a PCR primer selected from the group consisting of SEQ ID NO: 16, SEQ ID NO: 18 and SEQ ID NO: 20, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of any one of (e) to (h), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C

[under conditions equivalent to 42°C to 68°C in a buffer comprising 0.9M NaCl 0.09M citric acid, and encoding a protein that binds a D-galactosyl group through the  $\alpha(1\rightarrow6)$  bond to the hydroxyl group attached to the carbon atom at 6-position of the D-glucose residue in a sucrose molecule to form raffinose].

30. (Twice Amended) [The] An isolated nucleic acid which comprises a polynucleotide encoding a protein that binds a D-galactosyl group through the  $\alpha(1\rightarrow6)$  bond to the hydroxyl group attached to the carbon atom at 6-position of the D-glucose residue in a sucrose molecule to form raffinose [derived from a plant

selected from the group consisting of soybean, *Chenopdiaceae* plants and *Cruciferea* plants], wherein said polynucleotide comprises [having] a nucleotide sequence [hybridizable with a nucleotide sequence] selected from the group consisting of:

(a) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 1,

(b) a nucleotide sequence as depicted in SEQ ID NO: 2,

(c) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 3,

(d) a nucleotide sequence depicted by the 236<sup>th</sup> to 2584<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 4,

(e) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 5,

(f) a [the] nucleotide sequence depicted by the 134<sup>th</sup> to 2467<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 6, [and]

(g) a nucleotide sequence encoding the amino acid sequence as depicted in SEQ ID NO: 7,

(h) a nucleotide sequence depicted by the 1<sup>st</sup> to 1719<sup>th</sup> nucleotides in the nucleotide sequence as depicted in SEQ ID NO: 8,

(i) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from soybean with a combination of a PCR primer of SEQ ID NO: 9 and a PCR primer of SEQ ID NO: 10, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (a) or (b), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C,

(j) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from beet with a combination of a PCR primer selected from the group consisting of SEQ ID NO: 11 and SEQ ID NO: 13 and a PCR primer selected from the group consisting of SEQ ID NO: 12 and SEQ ID NO: 14, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the nucleotide sequence of (c) or (d), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C, and

(k) a nucleotide sequence obtainable from a polynucleotide which is amplifiable from a nucleic acid obtained from a *Cruciferae* plant with a combination of a PCR primer selected from the group consisting of SEQ ID NO: 15, SEQ ID NO: 17 and SEQ ID NO: 19 and a PCR primer selected from the group consisting of SEQ ID NO: 16, SEQ ID NO: 18 and SEQ ID NO: 20, wherein said nucleotide sequence is hybridizable with a nucleotide sequence complementary to the

nucleotide sequence of any one of (e) to (h), in a buffer comprising 0.9M NaCl and 0.09M citric acid at 65°C to 68°C

[under conditions equivalent to 65°C to 68°C in a buffer comprising 0.9M NaCl 0.09M citric acid, and encoding a protein that binds a D-galactosyl group through the  $\alpha(1\rightarrow6)$  bond to the hydroxyl group attached to the carbon atom at 6-position of the D-glucose residue in a sucrose molecule to form raffinose].